NYSERDA New York State Energy Research and Development Authority

New York Energy $mart Public Service Commission NYSERDA

New York Energy $mart℠ Macroeconomic Impact Analysis

Using IMPLAN Software

Energy Collaborative Analysis Workshop
June 28, 2007

Christopher Hall
Project Manager, Energy Analysis
New York State Energy Research and Development Authority
(518) 862-1090; ext. 3383

New York Energy $mart℠ Program Background

- Program funding initiated in July 1998
- Program funds collected by utilities through a "system benefits charge" & administered by NYSERDA
- Current funding level = $175 million per year
- Total expenditures = ~$800 million through 2006
- Program funding approved through June 2011

Analysis Modeling Tool

- IMPLAN and REMI models
- Models contain a detailed representation of patterns of transactions in NY economy, & interrelationships among industries and sectors
- Three levels of impacts: (1) direct, (2) indirect, & (3) induced

Output Definitions

- ***Industry output*** -- the value of total sales revenue
- ***Employment*** -- total wage and salary employees as well as self-employed jobs in a region
- ***Labor income*** -- both employee compensation and proprietor income
- ***Value added*** -- includes the components of labor income plus property income and indirect business taxes

Analysis Methodology

- Model two scenarios – "Base" scenario and "Program" scenario
- Measure scenario deltas (*Program minus Base*)
  - industry output
  - employment
  - labor income
  - value added
- Deltas represent net Program macroeconomic impacts

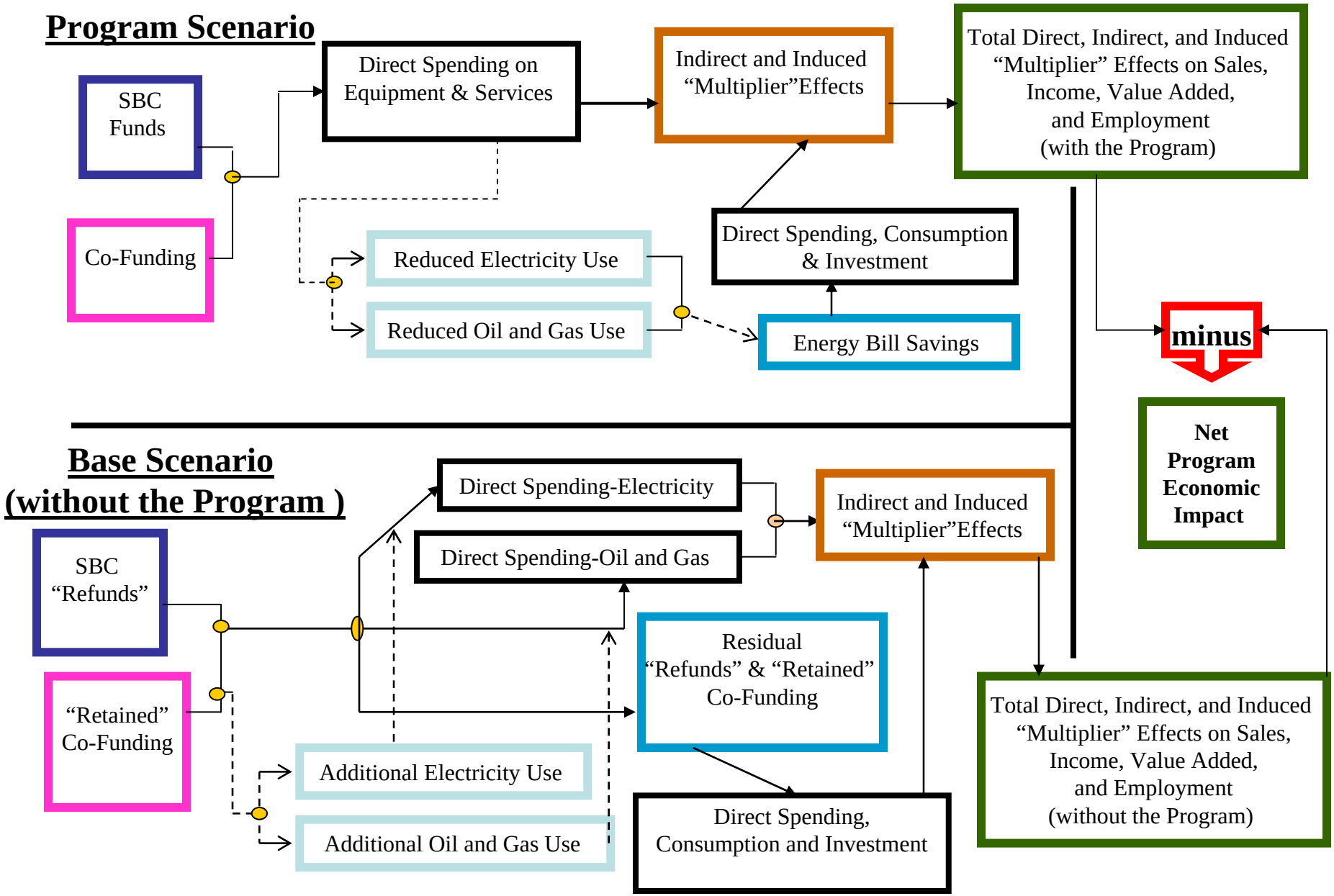
"Program" Scenario Considerations

- Expenditures of **New York Energy $mart℠** funds to achieve greater EE (includes equipment, incentives, promotion, and administration)
- Co-funding expenditures – portion of measure costs paid by customers
- ***Increased consumer disposable income as a result of EE improvements***
- Lower utility sales revenue and lower levels of spending on generation fuels and infrastructure

"Base" Scenario Considerations

- Increased disposable income in the hands of consumers (no "SBC" charge)
- Increased retained earnings by firms (no investment in EE)
- Increased purchases of electricity, NG, and oil without EE investments

Comparison of Economic Impacts for the Program Scenario with the Base Scenario



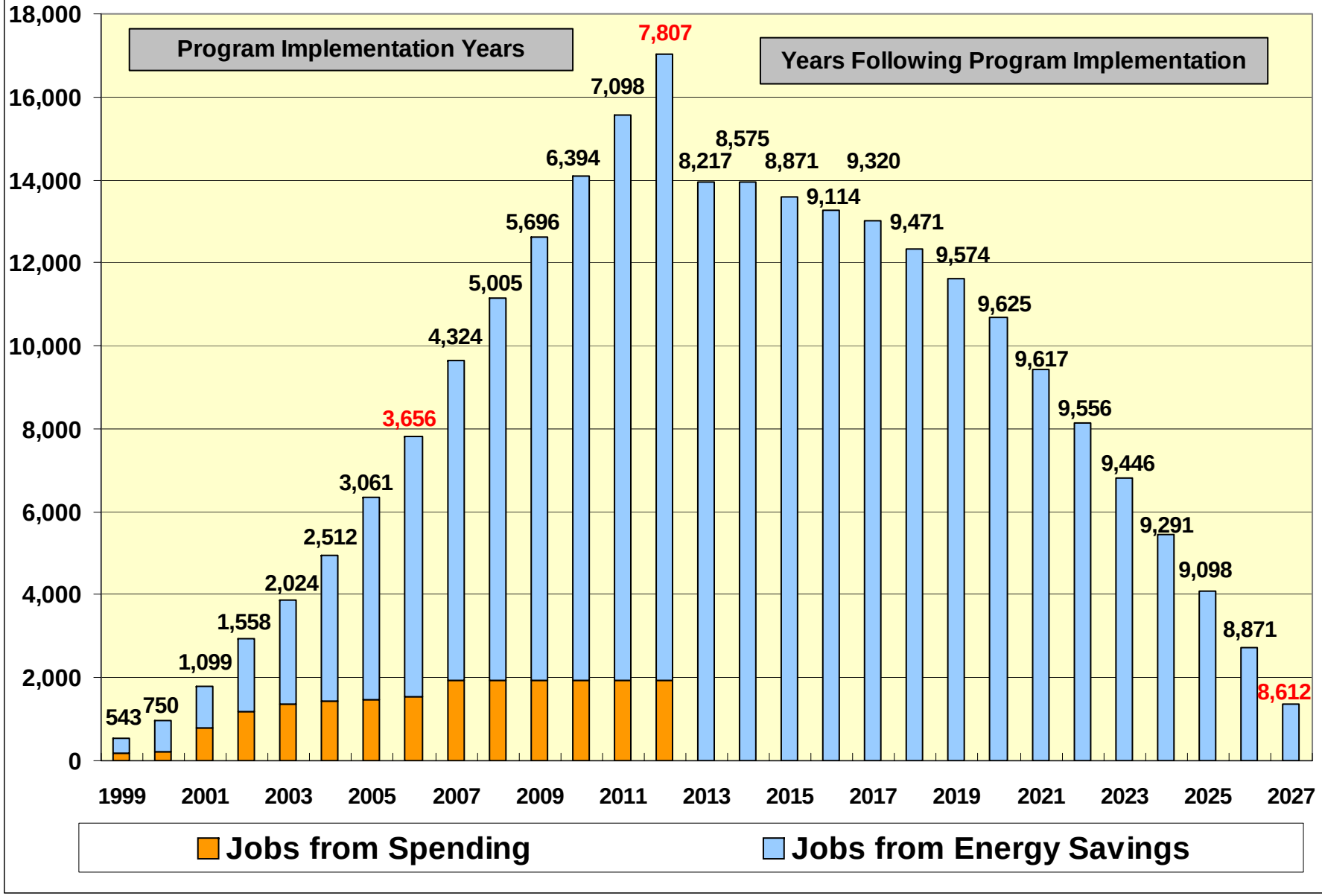
Use of Conservative Study Assumptions

- "Base Case" impacts are subtracted from "Program Case" impacts
- No market transformation
- Utility lost revenue is considered
- Energy prices are held constant (increase at rate of inflation only)
- Businesses spend only ~50% of energy bill savings

Sampling of Analysis Results

Net Employment Impacts of New York Energy $mart Program

(Net Additional Jobs by Year)



Sector Job Creation (ranked by order of magnitude)

- Personal and Business Services
- Wholesale and Retail Trade
- Construction
- Equipment and Instrument Manufacturing
- Products Manufacturing
- Transportation, Communication & Other Public Services
- Agriculture, Forestry and Mining
- Electric Utilities (Jobs Lost)

8,600 net sustained jobs added over study period (1999 to 2027)

Summary: Macroeconomic Impacts of the New York Energy $mart℠ Program Actual Program Expenditures through December 2006 (Constant 2006$)

Economic Variable	Annual Average All Years (1999 to 2027)
Jobs	8,612
Labor Income	$320 Million
Total Output	$456 Million
Value Added	$210 Million

Next Steps

- Build a similar analysis using REMI software
- Learn more about strengths and weaknesses of both REMI & IMPLAN models